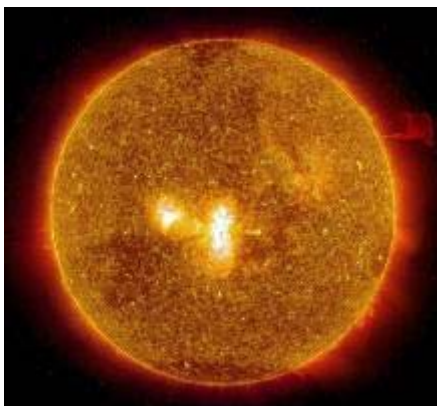


NASA Weekly Update

Week of May 21 – 29, 2007

May 25: NASA TV Sets Interviews for Next Shuttle Mission Flight Director: The lead flight director for NASA's first space shuttle mission this year, STS-117, will be available for satellite interviews from 6-8 a.m. CDT Friday, June 1. STS-117 Lead Space Station Flight Director Kelly Beck, raised in Cahokia, Ill., will oversee a flight of Space Shuttle Atlantis. Beck's interviews will be conducted live via the NASA Television analog satellite. For NASA TV downlink, schedule and streaming video information, visit: <http://www.nasa.gov/ntv>. For information on STS-117 and its crew, visit: <http://www.nasa.gov/shuttle>.

May 25: NASA Spacecraft Aids in Forecast of Solar Radiation Storms: NASA's Solar and Heliospheric Observatory (SOHO) now enables scientists to forecast solar radiation storms, giving future astronauts, traveling to the moon and Mars, time to



A composite of four images taken the STEREO Behind spacecraft on May 1, 2007

seek shelter and ground controllers time to safeguard satellites. The new method for the first time offers as much as one hour advance notice when a storm is approaching. SOHO is a project of international cooperation between the European Space Agency and

NASA. For more information on NASA's study of the solar system, visit:

http://www.nasa.gov/mission_pages/soho/index.html.

May 24: NASA Announces News Conference on Next Shuttle Launch: NASA managers have scheduled a news conference at Kennedy Space Center, Fla., no earlier than 2 p.m. EDT, Thursday, May 31, to discuss the status of the upcoming space shuttle mission. The briefing participants are Bill Gerstenmaier, associate administrator for Space Operations; Wayne Hale, Space Shuttle Program manager; and, Mike Leinbach, NASA launch director. The briefing will air live on NASA Television and the agency's Web site. Media will be able to ask questions from participating NASA locations. For NASA TV streaming video, downlink and scheduling information, visit: <http://www.nasa.gov/ntv>.

May 24: Reviews Document NASA's Progress on Next Human Spacecraft: NASA this week wrapped up six months of system requirements reviews for the Orion spacecraft, the Ares launch vehicles and other support systems, bringing together the Constellation Program's list of basic capability needs. The Constellation Program is developing a new space transportation system that will take astronauts to Earth orbit, the moon, and eventually to Mars. The next significant milestones for the Program are a preliminary design review series in summer 2008 and a critical design review series in early 2010. For more information about NASA's Constellation Program, visit: <http://www.nasa.gov/constellation>.

May 23: NASA Funds Universities' New Experiments for Suborbital Flights: NASA has selected four universities to conduct suborbital scientific research that is a new step in reinvigorating the agency's sounding rocket science program. The program offers a low-cost test bed for new scientific studies and techniques, scientific instrumentation and spacecraft technology. The newly selected university payloads are from the University of Wisconsin Madison; Dartmouth College; University of Colorado,

Boulder; and the University of Southern California, Los Angeles.

May 23: NASA, AOL and Mad Science Choose Pennant Design Challenge Winner: NASA, AOL's kids service, KOL, and Mad Science announced that Tapasya Das of Mount Laurel, N.J., is the winner of the NASA Space Pennant Design Challenge. The winning pennant, titled "Education 4 Exploration," will fly on space shuttle Endeavour's STS-118 mission, targeted



The winning pennant in the KOL/NASA Space Pennant Design Challenge by Tapasya Das of Mount Laurel, NJ

to launch this August. The grand prize also includes the opportunity for the winner to view the launch. For more information on the winning pennant and essay, visit: <http://www.KOLexpeditions.com>. For more information about NASA's STS-118 mission, visit: <http://www.nasa.gov/sts118>.

May 22: NASA Satellites Bolster Research on Barren Mid-Ocean Regions: NASA satellite data have helped scientists solve a decades-old puzzle about how vast blooms of microscopic plants can form in the middle of otherwise barren mid-ocean regions. A research team led by the Woods Hole Oceanographic Institution, Woods Hole, Mass., has used the data in its work to show that episodic, swirling current systems known as eddies act to pump nutrients up from the deep ocean to fuel such blooms. For more information, visit: http://science.whoi.edu/users/olga/eddies/EDDIES_Project.html.

Weekly Status Reports



Mission: STS-117 - 21st International Space Station Flight (13A) - S3/S4 Truss Segment Solar Arrays
Vehicle: Atlantis (OV-104)
Location: Launch Pad 39A
Launch Date: Targeted for June 8, 2007
Crew: Sturckow, Archambault, Reilly, Swanson, Forrester, Olivas and Anderson
Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

At Launch Pad 39A, operations are proceeding on schedule for a June 8 launch. This week, the hypergolic propellants were loaded into the orbiter and solid rocket boosters. Extra Vehicular Mobility Unit Nos. 1 and 2 (space suits) were installed in the orbiter airlock. Functional testing of the external fuel tank camera is complete, and the lens cover has been installed. Loading of the liquid oxygen and liquid hydrogen storage tanks, which will provide fuel for the shuttle's external fuel tank, is complete. A Flight Readiness Review, a two-day meeting to assess preparations for Atlantis' mission, will be held on May 30-31.

Mission: STS-118 - 22nd International Space Station Flight (13A.1) - S5 Truss Segment
Vehicle: Endeavour (OV-105)

Location: Orbiter Processing Facility Bay 2

Launch Date: Targeted for Aug. 9, 2007

Launch Pad: 39A

Crew: Kelly, Hobaugh, Williams, Morgan, Mastracchio, Caldwell and Drew

Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Endeavour's payload bay closeouts are complete, and the payload bay doors were closed for rollover to the Vehicle Assembly Building.

Mission: STS-120 - 23rd International Space Station Flight (10A) - U.S. Node 2

Vehicle: Discovery (OV-103)

Location: Orbiter Processing Facility Bay 3

Launch Date: Targeted for Oct. 20, 2007

Launch Pad: 39A

Crew: Melroy, Zamka, Parazynski, Wheelock, Wilson, Nespoli and Tani

Inclination/Orbit Altitude: 51.6 degrees/122 nautical miles

Inspections of Discovery's gap fillers, which are located between the thermal tiles, are complete. Testing of the Shuttle to Station Power Transfer System is under way. Power Reactant Storage and Distribution System testing is complete. Functional testing of the atmospheric revitalization pressure control system, part of the orbiter's life support system, continued this week. Modifications to Discovery's engine cutoff sensor wiring continue, as does the installation of BRI tile around the main landing gear doors and external tank doors.



Expedition 15 Commander Fyodor Yurchikhin and Flight Engineer Oleg Kotov prepared this week for two spacewalks while Flight Engineer Suni Williams

prepared for her return to Earth. In preparation for her successor's arrival, Williams' downlinked a 10-minute video tour for Clayton Anderson, who will travel to the station on the upcoming space shuttle flight.

Mission managers gave a "go" for a May 30 Russian spacewalk to install orbital debris protection panels on the Zvezda service module and a GPS antenna cable associated with Automated Transfer Vehicle navigation systems. This will be the 18th Russian spacewalk in support of station assembly and maintenance. The spacewalk is scheduled to begin at 1:20 p.m. CDT and last approximately six hours. NASA Television coverage will begin at 12:30 p.m.

First-time spacewalkers Yurchikhin and Kotov checked out the spacesuits and the Pirs airlock, prepared their tools, and closed the hatch to the Progress resupply vehicle docked to Pirs. Williams, who will help coordinate the spacewalk from inside the station, also prepared U.S. tools that will be used. During the spacewalk, the cosmonauts will retrieve a package, known as the "Christmas tree," which contains three bundles of debris panels. They were temporarily stowed on Pressurized Mating Adapter 3 during the STS-116 mission last December. After transferring the panels to Zvezda, Yurchikhin and Kotov will install the panels from one bundle. The others will be installed during their June 6 Russian spacewalk. Mission managers this week conducted a preliminary review of that spacewalk.

Williams this week installed updated software on the station's laptop computers, replaced the elastic "flex packs" in two Resistive Exercise Device canisters used to simulate weightlifting in the absence of gravity, and worked out on a stationary bicycle while medical experts on the ground measured her oxygen intake as part of a periodic fitness evaluation.

The crew members also prepared for the arrival of space shuttle Atlantis, targeted to launch on June 8. Yurchikhin and Kotov reviewed a recent digital photography practice session with shuttle imagery specialists, and Williams assembled a spacewalk tool to be used by shuttle astronauts who will retract the P6 starboard solar array. Along with filming the station video, Suni Williams also spoke with Clayton Anderson to help him prepare for his mission. It will begin officially when his specially-fitted Soyuz seat liner is transferred from Atlantis to the station during the STS-117 mission.

On Wednesday, Russian flight controllers executed an orbit adjustment burn, increasing the station's speed about one mile an hour and putting it in

the proper orbit for Atlantis' arrival.

The Expedition 15 crew also participated in interviews with WBZ Radio, CBS Radio, ABC News and MSNBC.



Expendable Launch Vehicle (ELV)

Mission: Dawn

Location: Astrotech Space Operations Facility

Launch Pad: 17-B

Launch Vehicle: Delta II 7925-H

Launch Date: June 30, 2007

Launch Time: 4:50:13 - 5:10:13 p.m. EDT

Solar array installation and deployment tests are scheduled to be completed Friday. The spacecraft is scheduled to move to the hazardous processing facility on May 28. Xenon for the Ion Propulsion System is scheduled to be loaded aboard June 1-2. Hydrazine, used for spacecraft control and maneuvering, will be loaded aboard June 6. The Delta II first stage, originally set for hoisting into the launcher on Wednesday, has been rescheduled for May 28 due to high wind conditions at Pad 17-B. This will be followed next week by attachment of the nine solid rocket boosters.

Mission: Phoenix

Location: Payload Hazardous Servicing Facility

Launch Pad: 17-A

Launch Vehicle: Delta II 7925

Launch Date: Aug. 3, 2007

Launch Time: 5:35:18 a.m. EDT

The spacecraft's flight software will be loaded aboard Friday. Guidance navigation and control system performance testing is scheduled for May 30-31.



Upcoming Events

- **June 8:** Launch of Space Shuttle Atlantis from Kennedy Space Center for mission STS-117.
- **June 20:** NASA Day on the Hill in the Rayburn Foyer.
- **June 30:** Dawn launch from Cape Canaveral Air Force Station on a Delta II rocket.
- **Aug 9:** Launch of Space Shuttle Endeavor from Kennedy Space Center for mission STS-118.

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